

AMENDMENTS TO THE CLAIMS

This listing of the Claims replaces all prior versions, and listings, of the claims in the application:

1-39. (canceled)

40. (previously presented) A method of diagnosis or monitoring of infection with an intracellular pathogen in an individual wherein peptide-specific effector T cells are enumerated, which method comprises:

- (a) providing a fluid sample from said individual containing fresh T cells, which have not been cultured *in vitro*, in contact with a surface carrying an immobilized antibody to interferon- γ ,
- (b) presenting to the T cells a T cell-activating peptide derived from the pathogen in the absence of any antigen presenting cells pre-cultured with said peptide,
- (c) incubating the fluid sample under condition to permit release of said interferon- γ , and
- (d) detecting released interferon- γ bound to said immobilized antibody to enumerate said peptide-specific effector T cells,

wherein the incubation is for a time to permit interferon- γ release by only those T cells that have been pre-sensitized *in vivo* to the T cell-activating peptide and are capable of immediate effector function without the need to effect division/differentiation by *in vitro* culture in the presence of the T cell-activating peptide; whereby said infection is diagnosed or monitored.

41. (previously presented) The method as claimed in claim 40, wherein the intracellular pathogen is selected from the group consisting of hepatitis B virus, hepatitis C virus, *M. tuberculosis*, *P. falciparum*, human immunodeficiency virus (HIV), and influenza virus.

42. (previously presented) The method as claimed in claim 40, wherein an ESAT-6 peptide of *M. tuberculosis* is presented to the T cells.
43. (previously presented) The method as claimed in claim 40, wherein the T cells are peripheral blood mononuclear cells.
44. (previously presented) The method as claimed in claim 40, wherein a peptide of 7-12 amino acid residues in length is added to the T-cell containing fluid, which is recognized by CD8+ T cells.
45. (previously presented) The method as claimed in claim 40, wherein the resulting fluid mixture is incubated under non-sterile conditions.
46. (currently amended) The method as claimed in claim 40, wherein the peptide is a pre-identified epitope from a protein of the intracellular pathogen.
47. (previously presented) The method as claimed in claim 40, wherein incubation is continued for a time of 4 to 24 hours.
48. (currently amended) The method as claimed in claim 40, wherein the T cells are taken from a patient known to be suffering, or to have suffered from, infection with ~~an~~ the intracellular pathogen.
49. (previously presented) The method as claimed in claim 41, wherein the intracellular pathogen is HIV.
50. (previously presented) The method as claimed in claim 40, wherein the individual has been immunized with a vaccine.
51. (previously presented) A method of diagnosis or monitoring of infection with *M. tuberculosis* in an individual wherein peptide-specific effector T cells are enumerated, which method comprises:

- (a) providing a fluid sample comprising peripheral blood mononuclear cells from said individual containing fresh T cells, which have not been cultured *in vitro*, in contact with a surface carrying an immobilized antibody to interferon- γ ,
- (b) presenting an ESAT-6 peptide of *M. tuberculosis* to T cells in the fluid sample in the absence of any antigen presenting cells pre-cultured with said peptide,
- (c) incubating the resulting fluid sample under condition to permit release of said interferon- γ , and
- (d) detecting released interferon- γ bound to said immobilized antibody to enumerate said peptide-specific effector T cells,

wherein the incubation is for a time to permit interferon- γ release by only those T cells that have been pre-sensitized *in vivo* to the ESAT-6 peptide and are capable of immediate effector function without the need to effect division/differentiation by *in vitro* culture in the presence of the ESAT-6 peptide; whereby said infection is diagnosed or monitored.

52. (previously presented) The method as claimed in claim 51, wherein a peptide of 7-12 amino acid residues in length is added to the T-cell containing fluid sample, which is recognized by CD8+ T cells.

53. (previously presented) The method as claimed in claim 51, wherein the peptide-containing fluid sample is incubated under non-sterile conditions.

54. (previously presented) The method as claimed in claim 51, wherein the peripheral blood mononuclear cells are taken from a patient known to be suffering, or to have suffered from, infection with *M. tuberculosis*.

55. (previously presented) A method of diagnosis or monitoring of infection with *M. tuberculosis* in an individual wherein peptide-specific effector T cells are enumerated, which method comprises:

- (a) providing a fluid sample comprising peripheral blood mononuclear cells from said individual containing fresh T cells, which have not been cultured *in vitro*, in contact with a surface carrying an immobilized antibody to interferon- γ ,
- (b) presenting an ESAT-6 peptide of *M. tuberculosis* to T cells in the fluid sample in the absence of any antigen presenting cells pre-cultured with said peptide,
- (c) incubating the peptide-containing fluid sample under condition to permit release of said interferon- γ , and
- (d) detecting released interferon- γ bound to said immobilized antibody to enumerate said peptide-specific effector T cells,

wherein the incubation is for a time from 4 to 24 hours to permit interferon- γ release by only those T cells that have been pre-sensitized *in vivo* to the ESAT-6 peptide and are capable of immediate effector function without the need to effect division/differentiation by *in vitro* culture in the presence of the ESAT-6 peptide; whereby said infection is diagnosed or monitored.

56. (previously presented) The method as claimed in claim 55, wherein a peptide of 7-12 amino acid residues in length is added to the T-cell containing fluid sample, which is recognized by CD8⁺ T cells.

57. (previously presented) The method as claimed in claim 55, wherein the peptide-containing fluid sample is incubated under non-sterile conditions.

58. (previously presented) The method as claimed in claim 55, wherein the peripheral blood mononuclear cells are taken from a patient known to be suffering, or to have suffered from, infection with *M. tuberculosis*.
59. (currently amended) The method as claimed in claim-40 51, wherein the incubation is for a time from 4 to 24 hours.
60. (previously presented) The method as claimed in claim 40, wherein the incubation is for a time from 6 to 16 hours.
61. (previously presented) The method as claimed in claim 55, wherein the incubation is for a time from 6 to 16 hours.
62. (new) The method as claimed in claim 51, wherein the incubation is for a time from 6 to 16 hours.
63. (new) The method as claimed in claim 41, wherein the intracellular pathogen is *M. tuberculosis*.